

Appl. No. 09/811,360  
Amendment dated October 6, 2005  
Reply to Office Action mailed May 12, 2005

Attorney Docket No. 355004-991501

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

Claim 1 (Previously presented) A total shoulder arthroplasty apparatus for recreating an anatomic proximal humeral configuration, comprising:

a stemless humeral head fixation configured for fixation to a flat cut proximal humeral surface, wherein the humeral head fixation includes a humeral head including a base surface configured for cement or ingrowth fixation, or both, and a rotationally-stabilizing, non-intramedullary base extension protruding therefrom including multiple fins configured for impaction into a cancellous region of the cut humeral surface, wherein the base surface of the humeral head is configured to contact or substantially mate with the cut humeral surface when coupled therewith and the non-intramedullary base extension is impacted into the cancellous region, and

wherein the multiple fins are uniformly planar along their entire extents and directly intersect at a center of the base surface, said center having a diameter that is approximately equal to a thickness of each of said fins, such that each said multiple planar fin protrudes radially along a plane from the center of the base surface where it intersects with each of the other fins.

Claim 2 (Cancelled)

Claim 3 (Cancelled)

Claim 4 (Previously presented): The apparatus of Claim 1, wherein said multiple intersecting fins form a cruciform shape.

Page 2 of 18

SF3115920.1  
355004-991501

Appl. No. 09/811,360  
Amendment dated October 6, 2005  
Reply to Office Action mailed May 12, 2005

Attorney Docket No. 355004-991501

Claim 5 (Previously presented): The apparatus of Claim 1, wherein the shape of one or more of said multiple fins is plano-triangular.

Claim 6 (Previously presented): The apparatus of Claim 1, wherein the protruding base extension further includes at least one linear extension.

Claim 7 (Cancelled)

Claim 8 (Previously presented): A total shoulder arthroplasty apparatus for recreating an anatomic proximal humeral configuration, comprising:

a stemless humeral head fixation configured for fixation to a previously cut proximal humeral surface, wherein the humeral head fixation includes a humeral head including a base surface configured for cement or ingrowth fixation, or both, and a non stem-bearing, stabilizing, non-intramedullary base extension including multiple fins protruding therefrom configured for impaction into a cancellous region of the cut humeral surface, wherein the base surface of the humeral head is configured to contact or substantially mate with the cut humeral surface when coupled therewith and the non-intramedullary base extension is impacted into the cancellous region, and

wherein the multiple fins are formed to have a cruciform shape and are uniformly planar along their entire extents and directly intersect at a center of the base surface, said center having a diameter that is approximately equal to a thickness of each of said fins, such that each said multiple planar fin protrudes radially along a plane from the center of the base surface where it intersects with each of the other fins.

Appl. No. 09/811,360  
Amendment dated October 6, 2005  
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Attorney Docket No. 355004-991501

**Claim 9 (Original):** The apparatus of Claim 8, wherein the protruding base extension includes two or more linear extensions for rotational stabilization.

**Claim 10 (Previously presented):** The apparatus of any of Claims 1 or 8, wherein a periphery of the humeral head fixation is formed to match cortical margins of the cut humeral surface.

**Claim 11 (Previously presented):** The apparatus of any of Claims 1 or 8, wherein the humeral head fixation is configured to be attached to the humeral surface using an adhesive.

**Claim 12 (Original):** The apparatus of Claim 11, wherein the adhesive is surgical cement.

**Claim 13 (Previously presented):** The apparatus of any of Claims 1 or 8, wherein the humeral head fixation is configured to be attached to the humeral surface by press-fitting.

**Claim 14 (Previously presented):** The apparatus of any of Claims 1 or 8, wherein a periphery of the base of the humeral head fixation is formed to match a specific shape and size of the anatomic neck of a specific humeral surface.

**Claim 15 (Previously presented):** The apparatus of any of Claims 1 or 8, further comprising a template punch configured to be inserted into the cut humeral surface, wherein the base extension is a total or partial male complement to a female template punch.

Appl. No. 09/811,360  
Amendment dated October 6, 2005  
Reply to Office Action mailed May 12, 2005

Attorney Docket No. 355004-991501

**Claim 16 (Previously presented): A total shoulder arthroplasty apparatus for recreating an anatomic proximal humeral configuration, comprising:**

**a stemless humeral head fixation configured for fixation to a flat cut proximal humeral surface, wherein the humeral head fixation includes a humeral head including a base surface configured for cement or ingrowth fixation, or both, and a rotationally-stabilizing, non-intramedullary base extension protruding therefrom including multiple fins configured for impaction into a cancellous, non-intramedullary region of the cut humeral surface, wherein the base surface of the humeral head is configured to contact or substantially mate with the cut humeral surface when coupled therewith and the non-intramedullary base extension is impacted into the cancellous region, and**

**wherein the multiple fins are formed to have a cruciform shape and are uniformly planar along their entire extents and directly intersect at a center of the base surface, said center having a diameter that is approximately equal to a thickness of each of said fins, such that each said multiple planar fin protrudes radially along a plane from the center of the base surface where it intersects with each of the other fins.**

**Claim 17 (Previously presented): The apparatus of Claim 16, wherein a periphery of the humeral head fixation is formed to match cortical margins of the cut humeral surface.**

**Claim 18 (Previously presented): The apparatus of Claim 16, wherein the humeral head fixation is configured to be attached to the humeral surface using an adhesive.**

**Claim 19 (Original): The apparatus of Claim 18, wherein the adhesive is surgical cement.**

Page 5 of 18

SF3115920.1  
355004-991501

Appl. No. 09/811,360  
Amendment dated October 6, 2005  
Reply to Office Action mailed May 12, 2005

Attorney Docket No. 355004-991501

**Claim 20 (Previously presented):** The apparatus of Claim 16, wherein the humeral head fixation is configured to be attached to the humeral surface by press-fitting.

**Claim 21 (Previously presented):** The apparatus of Claim 16, wherein a periphery of the base of the humeral head fixation is formed to match a specific shape and size of the anatomic neck of a specific humeral surface.

**Claim 22 (Previously presented):** The apparatus of Claim 16, further comprising a template punch configured to be inserted into the cut humeral surface, wherein the base extension is a total or partial male complement to a female template punch.

**Claim 23 (Previously presented):** A total shoulder arthroplasty apparatus for recreating an anatomic proximal humeral configuration, comprising:

a humeral head fixation configured for fixation to a flat cut proximal humeral surface, wherein the humeral head fixation includes a humeral head including a base surface configured for cement or ingrowth fixation, or both, and a rotationally-stabilizing, non-intramedullary base extension protruding therefrom including multiple fins for impaction into a cancellous region of the cut humeral surface, and wherein the base extension is confined to protrude only into a ball region of the humerus, to which the humeral head is configured to couple, and which is above an elongate region of the humerus, wherein the base surface of the humeral head is configured to contact or substantially mate with the cut humeral surface when coupled therewith and the non-intramedullary base extension is impacted into the cancellous region, and

Appl. No. 09/811,360  
Amendment dated October 6, 2005  
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Attorney Docket No. 355004-991501

wherein the multiple fins are uniformly planar along their entire extents and directly intersect at a center of the base surface, said center having a diameter that is approximately equal to a thickness of each of said fins, such that each said multiple planar fin protrudes radially along a plane from the center of the base surface where it intersects with each of the other fins.

Claim 24 (Previously presented): A total shoulder arthroplasty apparatus for recreating an anatomic proximal humeral configuration, comprising:

a humeral head fixation configured for coupling to a cut proximal humeral surface, wherein the humeral head fixation includes a humeral head including a base surface configured for cement or ingrowth fixation, or both, and a rotationally-stabilizing, non-intramedullary base extension protruding therefrom including multiple fins configured for impaction into a cancellous region of the cut humeral surface, and wherein the extension is nonintrusive of an elongate humeral region below a humeral ball region including the humeral head, wherein the base surface of the humeral head is configured to contact or substantially mate with the cut humeral surface when coupled therewith and the non-intramedullary base extension is impacted into the cancellous region, and

wherein the multiple fins are uniformly planar along their entire extents and directly intersect at a center of the base surface, said center having a diameter that is approximately equal to a thickness of each of said fins, such that each said multiple planar fin protrudes radially along a plane from the center of the base surface where it intersects with each of the other fins.

Claim 25 (Currently amended): A total shoulder arthroplasty method for recreating an anatomic proximal humeral configuration, comprising the steps of:

preparing a stemless humeral head fixation having a humeral head including a base surface configured for cement or ingrowth fixation, or both, and

Page 7 of 18

SF3115920.1  
355004-991501